Final Report

of the

SBREFA Small Business Advocacy Review Panel

on EPA's Planned Proposed Rule for

Effluent Limitations Guidelines and Standards

for the

Centralized Waste Treatment Industry

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INTRODUCTION

The Small Business Advocacy Review (SBAR) Panel has prepared this report for the rulemaking entitled **"Effluent Limitations Guidelines and Standards for the Centralized Waste Treatment Industry"** that the Environmental Protection Agency (EPA) is currently developing. On November 6, 1997, EPA's Small Business Advocacy Chairperson, Thomas E. Kelly, convened the Panel pursuant to Section 609(b) of the Regulatory Flexibility Act (RFA) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA). In addition to its chairperson, members of the Panel include Sheila E. Frace, Acting Director of the Engineering and Analysis Division within EPA's Office of Water; Sally Katzen, Administrator of the Office of Information and Regulatory Affairs within the Office of Management and Budget; and Jere W. Glover, Chief Counsel for Advocacy of the Small Business Administration.

The Panel collects the advice and recommendations of representatives of small entities that may be affected by a proposed rule and reports their comments as well as the Panel's findings on issues related to the key elements of an initial regulatory flexibility analysis (IRFA) under Section 603 of the RFA. The elements of an IRFA are:

- The number of small entities to which the proposed rule will apply.
- Projected reporting, record keeping, and other compliance requirements of the proposed rule, including the classes of small entities which will be subject to the requirements and the type of professional skills necessary for preparation of the report or record.
- Other relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule.
- Any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities.

Once completed, the Panel report is provided to the agency issuing the proposed rule and is included in the rulemaking record. In light of the Panel report, the agency then modifies the proposed rule, the IRFA, and/or the decision on whether an IRFA is required as appropriate.

This report by the Panel for the Centralized Waste Treatment Industry (CWT) planned proposed rule includes a summary of the advice and recommendations received from each of the small entity representatives

identified for purposes of the panel process. EPA or the Panel conducted three conference calls/meetings with small entity representatives to discuss their comments and obtain additional input. Summaries of these calls are included as Attachments A, B, and C. The full written comments submitted by the representatives are also provided in Attachment D to the report. The report also presents the Panel's findings and a discussion of issues related to the elements of an IRFA identified above.

SCOPE AND BACKGROUND

The objective of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." In order to achieve this objective, the CWA establishes as a national goal the elimination of the discharge of pollutants into navigable waters. To promote further progress in achieving the objective and to comply with sections 304 and 307 of the CWA, EPA is developing effluent limitations guidelines and pretreatment standards for existing and new centralized waste treatment facilities. These will limit the discharge of pollutants into waters of the United States and the introduction of pollutants into publicly owned treatment works (POTWs) by centralized waste treatment facilities. CWTs treat and/or recover waste, wastewater, and/or used material received from off-site generators. The off-site materials are the result of industrial activities and may be classified as hazardous or non-hazardous materials under the Resource Conservation and Recovery Act (RCRA). Some CWTs treat off-site waste exclusively while others treat on-site generated waste along with off-site generated waste.

The wastewater flows covered by this rule include all off-site waste receipts and all on-site wastewater generated as a result of centralized waste treatment operations such as solubilization wastewater, emulsion breaking/gravity separation wastewater, used oil processing wastewater, treatment equipment washes, transport washes (tanker truck, drum, roll-off boxes), laboratory-derived wastewater, air pollution control wastewater, incinerator wastewater from on-site incinerators, landfill wastewater from on-site landfills, and contaminated storm water. In summary, all wastewater discharges from CWT facilities will be subject to provisions of the planned CWT rule unless specifically excluded in the regulation.

When it is issued, the CWT proposal will present the result of the Agency's reconsideration of the January 27, 1995 proposal for national effluent limitations guidelines and pretreatment standards for the centralized waste treatment industry. EPA is re-proposing the CWT rule in order to clarify the scope of the guidelines, incorporate changes in the composition of the industry since original data collections, revise the regulatory alternatives, and address many of the issues raised in public comments.

EPA's current plans would subcategorize this industry based on the type of materials treated or recovered. EPA plans to propose three subcategories:

- Metal Bearing Waste Treatment and Recovery Subcategory ("Metals");
- Oily Waste Treatment and Used Oil Recovery Subcategory ("Oils"); and
- Organic Waste Treatment Subcategory ("Organics").

EPA estimates that there are 60 facilities in the metals subcategory (including 7 facilities owned by small firms), 165 facilities in the oils subcategory (including 51 facilities owned by small firms) and 27 facilities in the organics subcategory (including 2 facilities owned by small firms).

PROFILE OF THE INDUSTRY

Centralized waste treatment facilities are service businesses which treat other company's waste streams. The creation of central treatment facilities was encouraged by earlier effluent guidelines. In developing these effluent guidelines for categorical industries, EPA has generally classified facilities which ship their waste off-site to CWTs as zero or alternative dischargers whose costs are not evaluated in developing the categorical standards. Additionally, RCRA regulations, such as the 1992 used oil management requirements (40 CFR 279) significantly influenced the size and services provided by this industry.

Centralized waste treatment facilities vary by size and the type of waste streams they accept. Some treat waste streams from a few generating facilities while others treat waste streams from hundreds of generators. Some treat certain types of waste streams exclusively while others accept a variety of waste streams. Some treat non-hazardous waste streams only while others treat hazardous and non-hazardous waste streams. For some, their primary business is the treatment of other company's waste streams and, for others, centralized waste treatment is ancillary to their main business.

Based upon responses to EPA's data collection efforts, the Agency estimates that there are approximately 208 centralized waste treatment facilities in 39 states, of which 55 are owned by small businesses. (Note that the numbers of facilities in each subcategory add up to more than 208 because some facilities fit into more than one subcategory). The major concentration of CWT facilities is in EPA Regions 4, 5, and 6 due to the proximity of the industries generating the wastes undergoing treatment.

EPA estimates that the CWT industry annually discharges 4.4 million pounds of priority pollutants, 20 million pounds of non-priority metal and organic pollutants, and 490 million pounds of conventional pollutants (which may slightly overlap with the priority and non-priority pollutants). EPA sampling has detected over 100 different pollutants that are reduced through treatment in CWT wastewater. EPA has not yet determined the final list of pollutants which will be regulated.

APPLICABLE SMALL BUSINESS DEFINITIONS

EPA has carefully considered the appropriate definition for a small entity. The Agency reviewed SBA's small business definition for all Standard Industrial Classification (SIC) codes for this industry. Although firms that own facilities that provide centralized waste treatment services are found in more than 24 SIC codes, the

majority of facilities (over 70%) reported in the 1991 Waste Treatment Industry Questionnaire a SIC code of 4953 (Refuse Systems) which has a $6.0 million annual revenue (firm level) definition.

During the Panel process, seven CWTs provided SIC codes. Of these, four are also in SIC code 4953 and two are in SIC code 5093 (Scrap and Waste Materials) which has a small business definition of $5.0 million annual revenue.

Based on the above, for purposes of its initial regulatory flexibility analysis, EPA has defined a facility as a "small business" if it is owned by a firm with annual revenues of $6.0 million or less.

SUMMARY OF OUTREACH ACTIVITIES

Outreach to the regulated community is an important part of regulation development. EPA has actively involved stakeholders in the development of the proposed rule in order to ensure the quality of information, identify and understand potential implementation and compliance issues, and explore regulatory alternatives. EPA conducted a survey of the industry and received completed detailed questionnaires from 416 facilities. In addition, EPA published two Federal Register Notices (including the 1995 proposal) presenting information and requesting input on various issues related to the CWT effluent guideline. EPA has received over 200 written comments from these notices. EPA sponsored two public meetings, one prior to the original proposal on March 8, 1994 and one on July 27, 1997. Following the 1995 proposal, EPA also held a workshop and public hearing to discuss topics of interest to stakeholders and to receive oral comments. EPA has performed 41 site visits to CWT facilities and has participated in numerous meetings, seminars, and workshops that included substantial small business representation.

Since 1996, EPA has been particularly proactive in its outreach activities. EPA has participated in numerous conferences in various locations throughout the United States with small business participation. EPA mailed copies of the 1996 Federal Register Notice and Notification of the 1997 Public Meeting to all facilities that it could identify which may be subject to this rule. EPA also plans to mail copies of the upcoming proposal to each affected facility. Additionally, EPA has worked closely with the various industry groups, particularly the National Oil Recycler's Association (NORA), to ensure that small businesses are informed of our activities and to ensure that small business concerns are voiced to the Agency.

SUMMARY OF SBREFA OUTREACH

As part of its SBREFA outreach, EPA tentatively identified one small entity representative (SER) "for the purpose of obtaining advice and recommendations . . . about the potential impacts of the proposed rule;" (SBREFA, § 244(b)(2)) and provided the name to the Chief Counsel for Advocacy of the Small Business Administration on May 16, 1997: the National Oil Recyclers Association (NORA). On May 30, 1997, based on conversations with EPA and a review of comments to the original proposal, SBA suggested the addition of

two other SERs: the Environmental Technology Council and the Synthetic Organic Chemical Manufacturers Association. The Synthetic Organic Chemical Manufacturers Association subsequently indicated that they were not interested in participating in this process and that their members were not centralized waste treatment facilities. In October, an associate at Seyburn, Kahn, Ginn, Bess, Deitch, and Serlin, a law firm that represents nine CWT businesses, volunteered to participate. The final list of the SERs is as follows:

SERs	Company or Trade Association
Jack Waggener	Resource Consultants, Inc., for the National Oil Recyclers Association
David Case	Environmental Technology Council
Beth Gotthelf	Seyburn, Kahn, Ginn, Bess, Deitch, and Serlin, for the CWT Coalition

Attachment E lists all of the materials that EPA provided to the SERs and to the Panel. EPA's outreach to the SERs prior to convening the Panel and the Panel's subsequent outreach is summarized below:

- EPA sent CWT background materials and information on projected impacts and regulatory options to the SERs on September 15, 1997.
- EPA provided information on engineering costs, analytical costs, methodologies and alternatives to minimize small business impacts on October 23, 1997.
- EPA held a meeting with SERs to discuss the background materials and to address questions on October 30, 1997 (summarized in Attachment A).
- EPA held a conference call with SERs on November 5, 1997 to further discuss the information provided on October 23, 1997 (summarized in Attachment B).
- The SBREFA Small Business Advocacy Review Panel, convened November 6, held a conference call with SERs on November 20, 1997 to discuss their written comments (summarized in Attachment C).
- SERs provided written comments to the Panel (Attachment D). The Panel notes that comments were received up to and beyond the sixty day statutory period for the Panel. Limited consideration was given to those comments received late in the process.

SUMMARY OF INPUT FROM SMALL ENTITY REPRESENTATIVES

Number of Small Entities

Beth Gotthelf, of the law firm of Seyburn, Kahn, Ginn, Bess, Deitch, and Serlin, representing a coalition of centralized waste treatment facilities, commented that EPA has underestimated the number of small businesses which will be subject to the CWT rule. She believes that a significant portion of CWTs has not been identified by EPA. She provided a list of CWTs in the Michigan area that she believed were not accounted for in EPA's estimate, and conceded that it is often difficult to identify CWTs. She also questioned SBA's use of a $6 million threshold since many small entities in the industry tend to be above that threshold. She requested that SBA explain how the $6 million threshold was determined.

Jack Waggener, from Resource Consultants Inc., representing the National Oil Recyclers Association (NORA), agreed with Ms. Gotthelf that EPA has underestimated the total population of CWTs and, therefore, the number of small entities. He was unable to offer any additional ways to identify CWTs that EPA had not already utilized, and provided no independent estimates.

Reporting, Record keeping and Other Compliance Requirements

Ms. Gotthelf provided detailed information on the monitoring, reporting and compliance requirements to which CWTs are already subject. She expressed concern that additional monitoring, reporting, and other compliance requirements would increase the burden that exists for an already heavily-regulated industry. Members of her coalition estimated that they already spend over twelve percent of their work force fulfilling requirements of regulatory programs. She also commented that these regulatory programs do not exempt small businesses or decrease the reporting or record keeping requirements on small businesses. She expressed concern over the ability of small businesses to fulfill their regulatory requirements since many of these facilities lack employees with the required professional skills.

Ms. Gotthelf suggested that EPA consider limiting the required analyses to an indicator parameter. She commented that this was a way to reduce costs and maintain the integrity of the regulation. She suggested that CWTs analyze for an indicator parameter such as total organic carbon (TOC) or total suspended solids (TSS). If a facility's effluent exceeds the limitation on the indicator parameter, then the facility would be required to run a full organic scan or full metals scan. Ms. Gotthelf also stated that if EPA chose to require full scans rather than an indicator parameter, the monitoring frequency should be twice per month to reduce burden while assuring the variability of the wastestreams is captured through monitoring. Finally, Ms. Gotthelf responded to a Panel question as to the appropriateness of using silica gel treated n-hexane extractable materials (SGT-HEM) as an indicator parameter for the oils subcategory. Ms. Gotthelf's facilities responded that this would be problematic due, in part, to inconsistencies and the accuracy of the analytical method for SGT-HEM.

Additionally, Ms. Gotthelf suggested that EPA provide additional time for small businesses to install pollution control devices as a way to reduce burden.

Mr. Waggener concurred with Ms. Gotthelf that CWTs are already subject to many reporting and record keeping requirements and that the burden to small facilities was of particular concern.

Mr. Waggener commented that EPA had done a good job of estimating monitoring compliance costs and noted that EPA had reduced its monitoring frequencies from the 1995 proposal. He stated that facilities generally monitor for metals, semi-volatiles organics and volatile organics no more than once a quarter and at the most, once a month. He recommended an analytical monitoring frequency of no more than once per month for the industry and reduced monitoring of once per quarter for small entities.

Mr. Waggener is also receptive to the idea of an indicator parameter. He noted that SGT-HEM or total petroleum hydrocarbons (TPH) can be used as an indicator parameter to identify that emulsion breaking and dissolved air flotation (DAF) are working effectively and that the use of a indicator parameter would significantly reduce the costs of compliance monitoring. However, he expressed concern over the use of SGT-HEM or TPH as indicator parameters since meeting these limits can be very expensive. Mr. Waggener added that a TPH limit should be several hundred milligrams per liter to be appropriate. He believes that a standard for indirect dischargers based on one of these parameters would result in many facilities installing and operating expensive treatment systems with relatively small amounts of toxics being removed from their wastestreams. He first stated his belief that facilities which discharge to a POTW generally are not subject to oil and grease limitations, but later stated that they have oil and grease limitations between 100 and 500 mg/L. He thus believes that most CWTs already achieve most of the toxic removals that EPA projects for the proposed rule. He echoed Ms. Gotthelf's concern about the testing method for SGT-HEM.

Interaction with other Federal Rules

Ms. Gotthelf provided detailed information on other Federal Rules to which CWTs are subject. She noted that CWTs may be subject to the Used Oil Management Standard, 40 CFR 279; Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA, or the Toxic Release Inventory); the Oil Pollution Act; Resource Conservation and Recovery Act (RCRA); National Emissions Standards for Hazardous Air Pollutants under the Clean Air Act; and the NPDES and pretreatment programs under the Clean Water Act. Mr. Waggener concurred with Ms. Gotthelf. They both agreed, however, that none of these rules would duplicate or conflict with the proposed CWT effluent guidelines and pretreatment standards. Mr. Waggener indicated, however, that he believed the existing pretreatment program without categorical standards was adequate for indirect dischargers in the oils subcategory.

Suggested Regulatory Alternatives

Other than options to reduce burden already discussed, Ms. Gotthelf did not suggest any additional regulatory alternatives for small businesses. She stated that the facilities she represents do not believe that any CWT facilities should be excluded from the regulation. Furthermore, she stated that if EPA were to provide an exclusion, the basis should not be whether the off-site receipts were classified by RCRA as hazardous or non-hazardous. She stated that hazardous waste facilities are already highly regulated and subject to close scrutiny from regulators. Non-hazardous facilities, in many cases, are much less regulated. Ms. Gotthelf and the coalition of CWTs which she represents believe it is important to regulate all CWT facilities to ensure protection of the environment and to avoid the development of an unnecessary competitive advantage. Mr. Case also indicated

that he was not in favor of flow-based exclusions and that an exclusion for non-hazardous facilities would give them an economic advantage over facilities that treat both hazardous and non-hazardous waste. Both Ms. Gotthelf and Mr. Case feel that regulations are necessary to protect the image of CWTs as firms that provide an environmental service and that any exclusion would harm that image.

Mr. Waggener suggested that EPA has all of the information it currently needs to exclude the oils subcategory, especially those with non-hazardous waste streams, regardless of whether or not they are small businesses under SBA's size standard. Mr. Waggener based his suggestion on his analysis of EPA's estimate of the toxic pound equivalent removals per year. As discussed in the "other comments" section, Mr. Waggener has questioned EPA's estimation of toxics removed by this regulation particularly in regards to boron and benzo(a)pyrene, which together account for ninety percent of the estimated toxic removals for this subcategory. He therefore believes that EPA has overstated these toxic removals by as much as ninety percent. As such, he believes that the toxic pound equivalents being discharged by these small facilities do not warrant additional regulation by EPA. He believes that local limitations under the existing pretreatment programs provide sufficient protection of the environment. Mr. Waggener also noted that, absent the proposed CWT regulation, all of the CWT indirect discharge facilities are currently required to meet the pretreatment requirements of their local POTWs which are governed by general pretreatment regulations. He believes that, due to these requirements, most of these CWT facilities have oil and grease limitations that range between 100 and 500 mg/L, and that most CWTs are, in effect, meeting most of the toxic removal requirements that EPA is contemplating by the proposed CWT regulation.

Mr. Waggener also suggested that, as an alternative, the Agency consider a flow-based exclusion that would exclude all facilities treating under thirty million gallons per year. He further suggested this flow-cut off exclusion could be combined with a provision that facilities discharging more than 30 million gallons per year that are also owned by firms with revenues of under six million dollars per year also be excluded if they document their revenue.

Both Ms. Gotthelf and Mr. Waggener responded to a Panel question concerning the use of revenue to identify small businesses for exclusion purposes. They both stated that their members support the use of revenue to identify small businesses for regulatory relief purposes. Their facilities are receptive to providing this type of information to their POTWs provided that the POTWs treat the information as confidential in a method similar to that used by EPA.

Other Comments

Beth Gotthelf provided a detailed discussion of centralized waste treatment operations. She provided general information on the centralized waste treatment business and detailed information on their waste pre-qualification and acceptance procedures. She expressed concern over classifying each wastestream into one of the three subcategories. She is concerned that state and local regulators will require an additional level of record keeping to classify each and every wastestream into one of the subcategories. She suggested that facilities be allowed to determine, based on their knowledge of their facility and their customers, what percentage of each of

the three types of wastes it receives. Since the wastestreams can vary daily, she also suggests that facilities be allowed to round the percentages to the nearest ten percent.

Ms. Gotthelf also raised a concern about the application of the combined waste stream formula or "building block approach" to the proposed CWT effluent guidelines and limitations which would be required if a CWT facility treats waste in more than one subcategory and commingles the waste streams for discharge. She stated that applying the combined waste stream formula is labor intensive and impractical. As an example, she noted that the percentage of waste being treated at a typical CWT in each subcategory could change on a daily basis and, thus, the CWT could be out of compliance if their permit limitations were calculated based on a single set of percentages. She suggested that EPA propose a fourth subcategory which would be a single set of limits for mixed waste streams. She suggested establishing these limits based on the most stringent standards from any subcategory for each parameter. In order to prevent treatment by "dilution", she suggested requiring a professional engineer to certify that the treatment equipment in place is capable of treating the wastestreams received.

Mr. Waggener provided comments on some of EPA's post-proposal oily waste sampling data that he obtained directly from the facilities. Mr. Waggener noted that many of the organic pollutant loadings for the oily waste indirect subcategory are based on the sampling data of three treatment systems (out of seven). In the case of one of these systems, almost all of the toxic organic concentrations are at or below sample specific detection levels. This plant treats only non-hazardous wastewaters, which he states is representative of at least 75 to 85% of the oily waste subcategory. Mr. Waggener also particularly questioned the data for boron. Based on EPA's sampling data at one facility, one-third of the boron entering the treatment system is being removed. He questioned the validity of that conclusion. He also questioned EPA's current performance and post-regulation estimates of boron removals. He believes that boron removals are more likely zero due to the solubility of boron in wastewater and that the apparent removals are due to reported influent boron measurements that are higher than actual because of problems with the boron testing procedure. He suggested that EPA re-examine its testing procedure and the resulting data and conclusions.

Mr. Waggener also questioned EPA's current performance and post regulation estimates of benzo(a)pyrene used in EPA's loadings calculations. He questioned the actual presence of benzo(a)pyrene in oily wastes - particularly in non-hazardous oily wastes. He provided data from two treatment trains sampled by EPA which showed that benzo(a)pyrene was only detected in one out of ten samples. As a result, he questioned EPA's conclusion that benzo(a)pyrene should even be a pollutant of concern for this subcategory. He additionally questioned the methodology EPA used in assigning benzo(a)pyrene concentrations levels in their current performance estimates. He strongly suggested that EPA re-visit its loadings estimation methodology, especially as it relates to benzo(a)pyrene. Mr. Waggener also noted his belief that the bis(2-ethylhexyl)phthalate influent concentration used in EPA's loadings appeared to be extremely high.

Mr. Waggener additionally questioned EPA's cost models for dissolved air flotation. He stated that EPA's estimates for facilities with flow below eleven million gallons per year (the majority of the oils facilities)

were two to three times below "real world" costs. He stated that EPA's cost estimates for facilities with approximately 55 million gallons per year appear to converge with "real world" costs.

Both Ms. Gotthelf and Mr. Waggener expressed concern that the regulation may have a substantial economic impact on the industry.

PANEL FINDINGS AND DISCUSSION

It is important to note the Panel's findings and discussion are necessarily based on the information available at the time this report was drafted. EPA is continuing to conduct analyses relevant to the proposed rule, and additional information may be developed or obtained during this process and from public comment on the proposed rule. Any options the Panel identifies for reducing the rule's regulatory impact on small entities may require further analysis and/or data collection to ensure that the options are practicable, enforceable, environmentally sound, and consistent with the Clean Water Act.

Number of Small Entities.

The Panel noted the SER concerns that the estimate of affected facilities (and small entities) that would fall within the scope of the CWT effluent guideline and pretreatment standards may not include the entire universe of CWTs. As discussed earlier, Ms. Gotthelf provided a list of facilities in the Michigan area that she believed would be within the scope of the proposal, but were not accounted for in EPA's estimate. EPA reviewed its record and found that it had identified eight of the twelve facilities on the list, as well as twelve other facilities in Michigan not on the submitted list. This suggests that EPA may have underestimated the universe of CWTs by as much as one-sixth. However, EPA notes that this is a rapidly changing industry and believes its estimate was accurate at the time the data on which it was based was collected. Since the SERs did not suggest any other ways of identifying additional CWTs, the Panel recommends that EPA again solicit names and addresses of CWTs in the re-proposal.

Record keeping, Reporting and other Compliance Requirements.

The proposed rule contains no specific record keeping or reporting requirements. Monitoring for compliance with any limitations established on regulated pollutant parameters will be determined under current EPA regulations at 40 CFR, Parts 122 and 403. However, since EPA bases its regulatory limits on its assumed monitoring regime, EPA recommends that permitting authorities consider this regime in determining appropriate monitoring frequencies. Facility operators may also be reluctant to conduct less frequent monitoring (than that assumed by EPA), because it would leave them vulnerable to being found in noncompliance due to a single high reading that might still be within the range of normal variation for a well operated system. The Panel notes that monitoring costs represent a significant share of compliance costs for the proposed rule, and thus devoted considerable time to discussing various options for reducing these costs.

One suggestion made by SERs was to identify an indicator parameter for a large number of pollutants and base regulatory limits on this parameter alone. To be effective, such a parameter would have to be reasonably well correlated with the pollutants for which it is a proxy. EPA is currently exploring the possibility of using silica gel treated n-hexane extractable materials (SGT-HEM) as a proxy for semi-volatile and organic pollutants. The SERs raised several concerns with the use of SGT-HEM as an indicator and suggested several other possibilities, such as total organic carbon (TOC) or total suspended solids (TSS). One commenter agreed that TPH (as measured by SGT-HEM) is a good indicator of whether or not emulsion breaking and dissolved air flotation (DAF) are working effectively, but stressed the need to set realistic limits. He further added that the limit should be several hundred milligrams per liter to be appropriate. Another commenter noted several technical difficulties with the use of SGT-HEM, which EPA is also aware of and is continuing to explore. The Panel strongly endorses EPA's efforts to find a suitable indicator parameter that could result in significant monitoring cost reductions for all facilities.

The Panel next discussed the possibility of reducing the recommended minimum monitoring frequencies for small businesses, in the event that a suitable indicator parameter cannot be identified or that monitoring costs remain high even with the use of an indicator parameter. For costing the proposed rule, EPA assumed daily monitoring for conventional pollutants by direct dischargers, and monitoring for toxic and nonconventional pollutants by both direct and indirect dischargers as follows: for the metals subcategory, daily monitoring for metals, and for the oils and organics subcategories, weekly monitoring for both metals and organics. EPA believes these frequencies are appropriate given the variability of receipts generally seen on a day-to-day and week-to-week basis at CWT facilities. The bulk of the costs associated with this monitoring regime are for metals and organics.

Recognizing the high costs of monitoring for this industry, EPA also prepared an alternative reduced monitoring proposal. Under this proposal, the metals subcategory monitoring frequency would be reduced from daily (20 times per month) to monthly (once per month) for all regulated parameters. The monitoring frequency for the oils and organics subcategories for conventional pollutants would be reduced from daily to quarterly (4 times per year), while the frequency for all other parameters in these subcategories would be reduced from weekly (4 times per month) to quarterly. These monitoring frequencies are lower than that currently required for some facilities.

By EPA's estimates, this would reduce the annual monitoring costs for a typical facility by about 80-90 percent, which represents a savings of about $30,000 - $80,000 per year (assuming one outfall). For small businesses, such savings would be especially significant. If the reduced monitoring approach can be adopted without significantly undermining the environmental benefits of the rule, the Panel strongly recommends that EPA do so in the proposed rule, at least for small businesses ($6 million in revenue and below). As discussed earlier, all the SERs supported reduced monitoring for small businesses.

The Panel recognizes that EPA can only recommend monitoring frequency requirements to state and local permitting authorities. State and local permitting authorities have historically used factors such as raw waste variability, treatment, and compliance history to determine appropriate monitoring frequency. Nevertheless, the

Panel believes permitting authorities may also consider the monitoring frequencies on which limits are based in determining site specific monitoring requirements and believes it is appropriate for them to do so. The Panel notes that the majority of CWTs are currently required to monitor less frequently than under the monitoring regime on which EPA is currently considering basing its limits. The Panel believes, therefore, that basing limits on, and recommending to permitting authorities, a reduced monitoring regime for small businesses may result in significant monitoring relief for some of these businesses. The Panel recognizes, though, that this will ultimately depend on local permitting authorities.

During the Panel's discussion of the reduced monitoring alternative, EPA raised several concerns with this approach. Reduced monitoring frequencies would require corresponding increases in the regulatory limits for monthly average concentration, since each monthly average would be made up of fewer measurements and would therefore be subject to greater variability. However, if these limits were based on the same long term average, then facility operators would generally need to maintain the same level of performance from their treatment systems in order to ensure compliance as they would under a more frequent monitoring regime with lower regulatory limits. The only case in which this would not be true is if an operator tried to "game" the system by monitoring more frequently in months when the initial reading was over the limit. The Panel believes, however, that this situation can be adequately addressed on a case-by-case basis by the permitting authority.

EPA also questioned whether it would be practical to base any regulatory distinction, including monitoring requirements, on firm revenue, since this would require local permitting authorities to evaluate such data and to make provisions to ensure its confidentiality, which EPA believes they would be reluctant to do. The Panel recognizes this concern but believes it must be weighed against the significant saving in compliance costs that reduced monitoring would generate. The Panel also notes that the NPDES permit program already makes regulatory distinctions based on revenue (e.g., at the $100,000 level in the NPDES application form 2C), and that most permitting authorities already have provisions to protect CBI. If some standardized measure of revenue were used, such as the figure that appears on the firm's federal income tax return, some members of the Panel believe it would not be difficult for permitting authorities to base monitoring requirements on it. EPA notes that some pretreatment coordinators have expressed enforcement concerns relative to independent verification of revenue reports.

The Panel discussed alternatives to firm revenue as a basis for identifying small businesses that warrant monitoring relief. The Panel discussed the possibility of basing monitoring relief on flow since it is a parameter which is easily measured. However, EPA noted that there does not appear to be a strong relationship between revenue (which establishes whether a business is small or large) and flow. The Panel specifically solicited ideas from the SERs on ways to identify small businesses for these purposes. Both of the SERs which commented on the issue agreed that revenue would be a suitable criterion and that facilities would be comfortable providing economic information given that confidentiality is protected. Some members of the Panel believe, based on currently available data, that revenue is the most appropriate basis. The Panel encourages EPA, however, to continue evaluating other potential bases for providing monitoring relief.

Finally, the Panel notes that reduced monitoring from the regime EPA is currently considering might be appropriate for other plants, in addition to those owned by small businesses, because of the significant share of total compliance costs that monitoring represents. Reduction of monitoring requirements is worth consideration as a possible way of reducing burden without significantly undermining environmental benefits.

The Panel also noted the concern of one commenter that some permit writers would impose additional and substantial record keeping burden in order to apply the combined waste stream formula for facilities that are in more than one subcategory. This commenter suggested that EPA provide a fourth subcategory for such facilities, with the strictest regulatory limits from each of the other three, as an alternative. EPA does not believe this would address its concerns about dilution, instead of treatment, occurring as a result of commingling different types of waste streams, but is sensitive to the potential record keeping burden at facilities with combined waste streams and is exploring ways to address it in this rulemaking.

Interaction with Other Federal Rules

The Panel did not identify any other federal rules which duplicate or conflict with the requirements that would be imposed by the proposed effluent guidelines and pretreatment standards. However, two of the SER commenters noted that CWT facilities are already heavily regulated under a variety of environmental statutes and programs. Depending on the facility's RCRA status, these could include waste tracking requirements (RCRA, EPCRA), waste management planning requirements (RCRA), spill prevention and emergency response requirements (SPCC, EPCRA), and NPDES and the national pretreatment program. The latter is intended to ensure that facilities discharging into POTWs do not discharge pollutants that pass through or interfere with the operation of the POTW. Many facilities are also subject to additional state and local requirements. One commenter provided estimates of the time required by a typical CWT facility to comply with these requirements. The total time for compliance with all requirements ranged from 1,500 to 3,500 hours per year. The SER commenter also noted that a significant level of professional expertise is needed to successfully comply with these requirements, and that most of the programs do not have exclusions for small businesses, which means they bear a disproportionate cost burden measured as a percentage of revenue, relative to large firms. While the Panel did not consider that any of these requirements conflict with those in the proposed rule, the Panel agrees with commenters that these requirements provide an important context in which to consider the impact of additional regulation on small CWT facilities. The Panel also notes that all direct dischargers in the CWT industry are already subject to NPDES permits and all indirect dischargers are subject to local limits and/or the general pretreatment provisions.

Regulatory Alternatives

The Panel discussed the nature of the centralized waste treatment industry as part of its consideration of regulatory alternatives. CWT facilities are in the business of treating wastes from other facilities. As such, they provide an alternative to on-site treatment of industrial wastes and have benefited from effluent guidelines and RCRA regulations requiring such treatment. Some stakeholders have suggested that the absence of categorical standards for CWTs

has been a major "loophole" in the effluent guidelines program, allowing wastes to be treated off-site less effectively than would be required of the same wastes if treated on-site. Others have suggested that the existence of CWTs is an important "safety valve" which provides an affordable and effective treatment alternative for industrial facilities that would otherwise find it prohibitively expensive to comply with industry-specific categorical treatment requirements (as well as requirements under other statutes, such as RCRA, that may affect wastewater discharges). Both views were represented on the Panel.

Based on EPA data indicating that the largest concentration of small businesses in the CWT industry is among indirect dischargers in the oils subcategory, the Panel focused its consideration of regulatory flexibility alternatives on this group. The Panel invested considerable effort in examining the characteristics of this group in an attempt to develop a specific recommendation for providing regulatory relief to small businesses that would not jeopardize the pollutant removals (and corresponding environmental benefits) anticipated to result from the rule. Unfortunately, the Panel was not able to reach consensus on such a recommendation. The Panel did agree, however, that at a minimum the Agency should include a reduced monitoring alternative for small businesses in the event that the high monitoring costs of the rule could not be reduced through the adoption of an indicator pollutant parameter (see above). The Panel recognizes that further consideration of other regulatory relief provisions will likely take place prior to publication of the proposed rule and strongly supports this process. Hopefully, it will be informed by a resolution of some of the methodological issues discussed below.

Beyond that, the Panel discussed the possibility of excluding small businesses from the scope of the guideline. EPA was reluctant to adopt such an approach because the Agency could not find, based on existing data, any clear relationship between revenue (the defining characteristic of small businesses), and either flow, types of waste received, or estimated pollutant discharges. Because of the high variability of the wastes treated by this industry, even a small business may treat a significant volume of highly concentrated waste and be a significant discharger of pollutants.

However, recognizing the potentially high costs of the rule to small businesses, EPA analyzed several bases for not including small businesses within the scope of the proposal. (Note that these analyses, provided to both small entity representatives and Panel members in a memo dated October 20, 1997 entitled Analysis of Small Entity Regulatory Alternatives, are preliminary and some of the underlying data is still being revised.) The alternatives analyzed were: excluding all indirect dischargers with flows under 3.5 million gallons per year (MGY), excluding indirect dischargers that manage non-hazardous waste only with flows under either 3.5 MGY or 7.5 MGY, and excluding all indirect dischargers owned by small businesses (i.e., those with annual revenue under $6 million). Based on these preliminary analyses, the option which would exclude all indirect dischargers with flows under 3.5 MGY would address over half the small businesses potentially covered by the rule, reduce compliance costs among indirect dischargers by about 25% while reducing pollutant removals by about 6% (if current facility receipts do not change), and minimize projected facility closures and job losses among all of the options considered.

SBA, after consideration of the methodological issues discussed below, believes the preliminary analyses would support an exclusion for all small businesses. As estimated, this would achieve about the same overall cost savings as not including all facilities under 3.5 MGY, would reduce pollutant removals by about 12% (if current facility receipts do not change), and minimize process closures. It would result in somewhat more facility closures and job losses than excluding all facilities under 3.5 MGY, but the relief provided would be more directly targeted to small businesses. (Excluding all facilities under 3.5 MGY would also remove about 25% of facilities not owned by small businesses from the scope of the rule.) Although removals from indirect dischargers would be reduced by about 12% (if current facility receipts do not change), SBA believes that the total amount of lost removals (currently estimated to be about 200,000 pound-equivalents annually) would not be environmentally significant, especially taking into consideration the methodological issues discussed below.

SBA also notes that EPA projects annual regulatory costs in excess of 3 percent of annual sales for 45 percent of affected indirect facilities owned by small firms, but projects closures for only 7.5 percent of such facilities. SBA is concerned that EPA may have underestimated these closures on two grounds: (1) the closure methodology may not provide an accurate estimate of closures (for example, it relies in large part on untested assumptions regarding the proportion of cost increases that can be passed through to customers) and (2) the compliance costs themselves may be substantially underestimated for small firms, at least in the oils subcategory (one commenter asserted that they would be about twice as high for low-flow facilities in this subcategory as EPA has currently estimated). Although EPA understand's SBA's concerns, EPA believes that, in the absence of empirical data, its assumptions regarding cost pass through are reasonable. EPA is again searching the empirical literature on this question and will share the results of this search during interagency review. EPA also has reason to suspect that its current cost estimates may be conservative (high) in general, but will again solicit data on the costs for low-flow facilities in the oils subcategory based on the SER comment.

EPA's primary concern with an exclusion based on these preliminary analyses is that they represent one snapshot of a rapidly changing industry. EPA is concerned that if any segment of the industry were excluded, even a segment which does not currently appear to account for a significant share of pollutant discharges, that segment might quickly expand as a result of the exclusion, leading to much greater discharges within a few years than predicted by existing data. While the cutoff itself would provide some protection against this possibility (if a facility grew beyond the revenue or flow cutoff it would no longer be eligible), EPA believes that many small businesses have substantial unused capacity, some of which might be below the cutoff, depending on what cutoff was used.

The Panel discussed several ways of addressing this concern. One way would be to put a mass-based limit on receipts as part of the eligibility requirements for the exclusion. This could ensure that significant volumes of highly contaminated wastes would not be handled by excluded facilities. However, it would also limit the flexibility of small businesses benefiting from this exclusion, and might require them to give up a significant share of their existing business.

Another approach that might provide relief to small businesses is a streamlined variance procedure. The Panel understands that EPA can grant variances from categorical pretreatment standards based on a showing of

fundamentally different factors (FDF). In deciding whether to grant such a variance, EPA may consider the specific pollutants found in a facility's raw waste, the volume of its discharge, non-water quality environmental and energy impacts of the otherwise required treatment, age and size of the facility, processes employed (including any process changes), and costs of compliance. The Panel also understands that under current statutory requirements, such variances are usually granted on a case-by-case basis to individual "requesters." The CWA limits FDF variances to circumstances in which a facility applies for a variance based solely on information and data the facility has submitted to EPA during the rulemaking comment periods. However, given the potential burden to individual small businesses of applying for such a variance and developing the necessary supporting information, the Panel encourages EPA to consider, and solicit comment on, appropriate ways to streamline the process for small businesses. This might include providing the ability for facilities to submit a "group" FDF request to the extent permitted by the Clean Water Act.

Small entity commenters were divided on the issue of granting an exclusion to small businesses. One commenter believed it was appropriate to exclude all indirect dischargers in the oils subcategory, and that this was especially appropriate for those treating only non-hazardous wastes, based on his belief that pollutant discharges from this group are small. The other commenters opposed this approach. These commenters believed that an exclusion would adversely impact the image of the industry and were concerned that an exclusion for facilities that treated only non-hazardous waste would give those facilities an economic advantage over facilities that treat hazardous waste as well as non-hazardous waste. One of these commenters preferred reduced monitoring and also suggested that small businesses might be granted additional time to comply with the new standards, rather than not including those businesses within the scope of the rule.

SBA also suggested that, instead of a small business exclusion for indirect discharges in the oils subcategory, EPA should consider a less costly technological alternative - specifically emulsion breaking and secondary gravity separation. The two commenters which provided input on this option supported this approach for small businesses. SBA urges that EPA consider whether this level of treatment is adequate, and whether appropriate limits and cost estimates can be developed to reflect this technology, given the wide variability in the wastes treated and the limited data available on this technology option. Given the current local pretreatment requirements, SBA believes it is important to consider whether there is any significant environmental benefit from requiring dissolved air flotation over emulsion breaking and secondary gravity separation for small businesses, and if so, whether it justifies the additional costs imposed on these businesses.

The Panel recommends that EPA include a full and balanced discussion of possible small business relief measures in the preamble to the proposed rule and solicit both comments and data that might address some of the concerns that have been raised. Examples of such data would include plant capacity, as well as influent and effluent concentrations along with the percent of hazardous and non-hazardous wastes those concentrations represent. The Panel further recommends that EPA strongly consider developing some form of regulatory relief for small businesses for the final rule if its analyses continue to show significant economic impacts on a substantial number of small businesses.

The Panel also discussed EPA's preferred treatment option for new sources in the metals subcategory. Here the issue is not significant economic impacts on existing small businesses, but potential barriers to entry for future small businesses. EPA is considering a treatment sequence consisting of selective primary metals precipitation, followed by liquid/solid separation, secondary precipitation, followed by more liquid/solid separation, tertiary precipitation, and clarification for new sources in this subcategory. This option appears to be over three times as costly as the treatment sequence that EPA is considering for existing sources, which consists of batch primary precipitation, liquid/solid separation, secondary precipitation, and sand filtration.

It also appears that for existing sources the less costly option achieves 98% of the pollutant removals achievable by the more costly option. Although annualized cost and removal figures for the two options have been calculated only for existing sources, the figures suggest that there would be little difference in environmental benefits from the two options for new sources as well. The cost differential between the two options would be less for new sources than for existing sources because it is virtually always cheaper to incorporate treatment into the design of new facilities than to retrofit existing ones. According to EPA's preliminary analysis, it appears that the incremental cost-effectiveness of increasing the stringency from the less costly to the more costly option for existing sources would be quite high relative to other effluent guidelines and pretreatment standards (for existing indirect dischargers the incremental cost-effectiveness would be $940 per pound equivalent).

EPA believes that the requirement under the Clean Water Act to base new source standards on best available demonstrated technology (BADT) limits its ability to consider cost-effectiveness in setting the standard. Some members of the Panel are concerned, however, that competition from new small businesses might be inappropriately restricted due to much higher regulatory costs being imposed on new facilities than on existing ones, with little corresponding environmental benefit. These Panel members recommend, therefore, that EPA carefully consider the degree of flexibility available under the Clean Water Act to select a reasonable, cost-effective treatment option on which to base new source standards for the metals subcategory, and in doing so take into account the requirements of the Regulatory Flexibility Act and Executive Order 12866 as well.

Methodological Issues

The Panel discussed several methodological issues related to the manner in which EPA has calculated baseline pollutant loadings for this industry, and the pollutant removals that would result from the proposed rule. Some members of the Panel are concerned that the Agency's current estimates of baseline loadings, post-regulation loadings, and pollutant removals may be too high for certain parameters, for the reasons discussed below. At the same time, the Panel recognizes that the estimates are preliminary and that the Agency is still refining them. The Panel recognizes that there may not be time or available data for the Agency to completely resolve the issues discussed below prior to publication of the proposed rule, but urges EPA to do as much as possible in order to facilitate informed public comment on the environmental benefits of the rule. The Panel further recommends that the Agency identify the limitations of the loading estimates in the preamble, along with a request for comment on their significance and suggestions and/or additional data that might address them.

The Panel notes that the Agency's estimates of baseline and post-regulation loadings are based on pollutant concentrations measured at a relatively small number of centralized waste treatment plants that EPA believes characterize typical conditions of the industry as a whole at baseline and post-regulation. For a given pollutant, the analysis of a particular sample generally resulted in either a measured concentration, or a "non-detect" associated with an estimated sample-specific detection limit. Depending on the other constituents of the sample, the sample-specific detection limit may have been quite high. In some cases sample-specific detection limits were hundreds of times the analytical method minimum level. This was particularly true in highly concentrated influent samples. For example, the sample-specific detection limit for benzo(a)pyrene in one of the influent samples was 340 times the analytical method minimum level. These high sample-specific detection limits led to several anomalies in the interpretation of data. For example, at some facilities, pollutants were detected in the effluent (post-treatment) that were not detected in the influent to treatment at the influent sample-specific detection level. EPA generally assigned a value equivalent to the sample-specific detection limit as the influent concentration when determining baseline loadings. This may have resulted in an overestimate of baseline loadings, but is consistent with the methodology EPA used in evaluating effluent non-detects in the determination of effluent limitations. (When determining effluent long term averages based upon a combination of detected values and non-detects, EPA generally assigns the sample-specific detection limit to the non-detect as the effluent concentration.) It may also have resulted in an overestimate of pollutant removals due to treatment, as influent sample-specific detection limits are generally much higher than effluent sample-specific detection limits.

For the oils subcategory, in cases where the influent sample-specific detection limits were greater than 500µg/L, EPA was concerned that using the sample-specific detection limit would be an unreasonable assumption. In these instances, EPA generally transferred data from another treatment system which had a comparable concentration of oil and grease. Oil and grease was used to judge the transfer of data because of its correlation with measured organic pollutants throughout the range of facilities. In some cases, the value was imputed by averaging the data from several treatment systems. This methodology may have resulted in either an over-estimate or an under-estimate for these facilities.

At certain facilities, EPA had reason to believe that certain parameters were present despite non-detect values at both the influent and effluent sample-specific detection limits. Again, this occurred in highly concentrated wastes where the sample-specific detection limits were extremely high. If the parameter was detected at lower levels in similar, but generally less concentrated, waste streams, EPA followed the same procedure as outlined above for influent values but continued to assign the effluent sample-specific detection limit for use in limitations development. The particular method that EPA used to deal with influent sample-specific detection limits greater than 500µg/L in the oils subcategory (i.e., imputing readings to one plant based on samples from one or more other plants) resulted in some data being weighted more heavily in the analysis than others, though it is not clear in which direction this may have influenced the results. If the Agency continues to believe that imputing concentrations to non-detect samples is appropriate, the Panel recommends that it consider addressing this concern by using all plants for which actual values are available in calculating the imputed concentrations rather than the plant for which the concentration of oil and grease most closely matches. Another way to estimate these influent values, for cases in which a pollutant was detected in the effluent but not the influent, would be to start with the effluent values and back-calculate the influent values by adjusting for treatment removal efficiency.

Some members of the Panel are concerned that the use of sample-specific detection limits provides an upper bound estimate of baseline and post-regulation loadings. That is, the true concentration value of a non-detect is expected to be below its sample-specific detection limit and any loadings calculated with these detection limits are upper bounds of the true loadings values. One of the commenters stated this concern even more strongly, claiming that the procedure "grossly over-estimates the amount of potential toxics in a waste stream." Because sample-specific detection limits were usually higher for the influent samples than for the effluent samples, it is likely that the estimated removals are also high. It is possible that EPA's procedure for adjusting (downward) the assigned concentrations for pollutants with sample-specific detection limits over 500 ug/L may have compensated for any over-estimates. (EPA noted the use of concentrations of benzo(a)pyrene at approximately 10 percent of the sample-specific detection limit.)

One way to address the concern with sample-specific detection limits may be to assume that pollutants not detected in the influent or the effluent are not present, or to assume that they are present at some concentration below the sample-specific detection limit (for example, half of it). Assuming the contaminant was not present would give a lower bound estimate of loadings, while assuming something below the sample-specific detection limit would give an intermediate estimate.

EPA used the methodology described above in estimating oily waste subcategory baseline loadings for benzo(a) pyrene, which was detected in the influent at two treatment systems. Two other treatment plants had influent sample-specific detection limits for benzo(a)pyrene at or below 26µg/L. The remaining three sampled treatment plants had influent sample-specific detection limits above 500µg/L (the minimum level of the analytical method 1625 is 10 ug/L). For one of these plants, EPA imputed the detected value from the plant with the closest concentration of oil and grease as was done for other parameters (see above). The other two plants had influent concentrations of oil and grease greatly exceeding that of any of the other sampled plants. For these two plants, EPA assumed benzo(a)pyrene influent concentrations at the average of the two detected values; this average was approximately 10 percent of the sample-specific detection limits for these two plants. Although this modification should reduce the magnitude of any over-estimate (and could result in an underestimate), the Panel discussed the concerns relative to the accuracy of the baseline loading estimate for benzo(a)pyrene at length because of the impact of these estimates on the total toxic loading estimated for the oily waste subcategory. (Benzo(a)pyrene accounts for about 40% of the estimated toxic removals for this subcategory.)

The Panel notes that for some pollutants, the estimates for an entire subcategory may be based on detection at a single facility, with the actual values being assigned using the procedure described above. Some members of the Panel believe that EPA should reconsider whether it is appropriate to attribute a pollutant to an entire subcategory based on detection at a single facility. EPA notes that in some of these cases, the pollutant, while detected at only one plant, was detected in separate treatment systems on multiple days.

The Panel also discussed the method by which EPA estimated baseline pollutant loadings for oily waste subcategory facilities with no available effluent concentration data. For this subcategory, EPA has sampling data from seven treatment systems. The concentrations resulting from the gravity separation/emulsion breaking stage at the seven treatment systems range from highly concentrated to fairly dilute. EPA randomly assigned one of the

seven concentration data sets to each of the 74 indirect plants with known flows to estimate the corresponding loadings for that plant at the gravity separation/emulsion breaking stage. This randomization procedure results in unbiased estimates of pollutant loadings (i.e., estimates that are equally likely to be high or low with respect to the true values). At the same time, the procedure may produce an estimate for total baseline loadings that differs considerably from the true value. Nevertheless, EPA believes it represents a reasonable procedure for estimating the required loadings for this industry using sparse data. Baseline loading estimates were then made by factoring out removals beyond the gravity separation/emulsion breaking stage due to treatment in place.

The seven concentration data sets were assigned to 81 indirect facilities (i.e., 74 randomly assigned plus the 7 original facilities) with a group of 11 to 13 facilities assigned to each data set. As it turned out, three of the four most concentrated data sets (as measured by oil and grease) were assigned to the groups with the highest total flows. The estimate of total baseline loadings is thus higher than what would have resulted if the data from each of the seven sampled facilities had been weighted equally in the analysis. EPA considered, and rejected, the approach of applying the average concentration from the seven sampled facilities to all of the other plants (which would have ensured that each sampled facility was given equal weight) because it determined that it is important to retain the substantial, real-world variability in influent concentrations to adequately account for non-linear treatment costs. The Panel discussed the merits of modifying the random assignment procedure to ensure that each of the seven concentration data sets are assigned to groups of facilities whose combined total flow are approximately the same and also have the same approximate distributions of treatment in place and firm revenue. In this way, each sampled plant would receive equal weight in the analysis but the variability in influent concentrations would be preserved. EPA is considering the practicality of adopting this modified procedure. EPA also intends to request actual influent and effluent data from the three facilities with the highest flows to assist in further evaluation of the estimation procedure.

The Panel also notes that toxic removals from indirect dischargers are apparently attributed to the rule even for pollutants for which pretreatment limitations will not be established. Phenanthrene, for example, which accounts for about 4% of estimated removals from indirect dischargers in the oils subcategory, is removed by POTWs with 95% efficiency, while it is removed by EPA's currently preferred treatment option with only 90% efficiency. Since pollutants which are more effectively removed by POTWs than by pretreatment are generally considered not to pass through the POTW, it is not clear to some Panel members that it is appropriate to include incremental removals of such pollutants (estimated to be 4.5% in the case of phenanthrene) in the toxic removals attributed to the rule. These Panel members recommend that EPA reexamine this issue.

The Panel also noted the concern raised by one of the SER commenters that the baseline loadings and removals associated with boron may be inflated due to a problem with the laboratory test procedure. This commenter does not believe that boron is likely to be removed by the emulsion breaking, gravity separation and dissolved air flotation treatment that EPA is currently considering for this industry, due to its high solubility in water. He believes that the difference between the influent and effluent concentrations is likely due to contamination of the influent samples from the borosilicate glass containers in which the testing was done. He bases this hypothesis on the fact that much heavier digestion is required for the highly contaminated influent samples than for the treated effluent samples. The Panel discussed this issue, which is significant to EPA's

environmental benefits estimates because boron accounts for half of the total toxic removals currently estimated for indirect dischargers in the oils subcategory (which includes most of the small businesses affected by the rule). EPA re-evaluated the sampling data to determine if contamination due to the analytical techniques could have been responsible for the estimated boron removals. The Analytical Methods Staff found no evidence of boron contamination due to sample handling techniques in the analysis of influent samples. They also researched boron contamination reported by others and found no literature supporting the premise that boron contamination of samples could occur at a magnitude measured in EPA's influent sampling. The Panel recommends that EPA search available databases for additional information regarding boron removals in dissolved air flotation systems and other common water treatment technologies. Furthermore, the Panel also notes that a large portion of the boron loadings is attributable to one plant whose measured boron influent concentration was approximately thirty times higher than the average influent of the other six model plants, and that this high concentration was assigned to plants with the highest flows of all seven groups that made up the loadings model.

The Panel is also concerned that EPA's data can not distinguish between hazardous and non-hazardous waste flows. EPA's current data are ambiguous regarding the relative loadings of hazardous and non-hazardous pollutants. The influent sample with the highest concentration of toxics can not be identified as either hazardous or non-hazardous. EPA has verified that some of the waste receipts in treatment systems that EPA initially identified as non-hazardous were in fact hazardous flows. The two plants without a RCRA permit, where cross contamination is not an issue, have the lowest toxic loadings.

If it were the case, as one SER commenter claims, that non-hazardous flows contain relatively low pollutant loadings compared to hazardous flows, then the Panel believes that it might be appropriate to develop different regulatory requirements for the two types of flows and/or adjust the treatment costs for compliance for the non-hazardous wastes accordingly. If determined to be appropriate, this could target the rule to the discharges of greatest concern, and if different requirements were developed, would likely significantly reduce the cost of the rule. The Panel notes that two other SER commenter recommended against imposing different regulatory requirements on hazardous and non-hazardous waste flows. These commenters argued that hazardous flows are already heavily regulated while non-hazardous flows are not, and that it is thus important that the proposed rule apply equally to both types of flows. They further noted that the different requirements for facilities that treat only non-hazardous waste could create a competitive disadvantage for those facilities that treat both hazardous and non-hazardous waste. The Panel notes that neither type of flow is currently subject to categorical effluent guidelines or pretreatment standards, and remains concerned that the same standards and guidelines may not be appropriate to waste flows with very different characteristics. The Panel thus recommends that EPA solicit additional data and perhaps itself perform additional sampling to determine if an adequate basis exists for developing different regulatory requirements for hazardous and non-hazardous flows.

Finally, the Panel notes that if EPA has overestimated the pollutant loadings for this subcategory, specifically for the non-hazardous flows, it may also have overestimated the costs of complying with the rule. EPA's costing methodology is based on the current performance estimates. For each facility, EPA compares the current performance estimates to the long term averages for the pollutants of concern. If a facility's current performance estimate for a single pollutant of concern exceeds the long term average by greater than ten percent,

then the facility is costed for the entire treatment train which forms the technology basis for the long term averages -- even though achievement of compliance may not require installation of the full suite of treatment considered for the rule.

The participation of the small entity representatives was critical in enabling the Panel to better understand the data and the various methodological issues. It is quite clear that the rulemaking process needs to be transparent in order to aid the full participation of the public in the comment period. Therefore, the Panel recommends that the agency provide sufficient data for each subcategory that would allow commenters to analyze the specific economic effects associated with the various regulatory alternatives. This data should be provided in a manner that protects confidential business information while providing sufficient detail for the public to view the specific assumptions and data used to develop the pollutant loadings, removals, costs, and economic impacts for each subcategory.